



Factors of successful sports activities in road-ring racing

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Abstract

Objective of the study was to identify the psychological characteristics of athletes associated with the achievement of high sports achievements in road-ring racing (RRR).

Methods and structure of the study. In the process of collecting empirical information, the following psychodiagnostic tests and methods were used: an expert assessment questionnaire "Athlete through the eyes of a coach" to determine performance, emotional stability and motivation; determination of the type of character according to K.G. Jung; Bass-Darkey aggression level questionnaire. The study involved 30 athletes.

Results and conclusions. The effectiveness of pilots in the RRR is influenced not only by the training of skills, but also by a number of individual psychological qualities of pilots. Efficiency largely depends on the motivation indicators of pilots. The aggressiveness of pilots acts as an undesirable personality trait for RRR pilots (this statement applies only to this sport!), which hinders their performance and prevents them from making adequate decisions in the face of time pressure. There is a statistically significant difference between highly successful and less successful pilots in terms of emotional stability: highly successful athletes are more stable, which means they are less prone to panic and less likely to fall into a stupor.

Keywords: success in sports activities, road racing, emotional stability.

Introduction. The study of the success of pilots in road racing is still not covered by a large number of scientific works, since this is a relatively young type of sports, and the problems of this sport have not yet taken their due place in the field of view of researchers. It is known that the productivity of an athlete's achievements largely depends on the individual psychological characteristics of the individual. This thesis is also valid in relation to the ring road motorsport.

Objective of the study was to identify the psychological characteristics of athletes associated with the achievement of high sports achievements in road-ring racing (RRR).

Methods and structure of the study. The methodological basis of the study is the concept of E.G. Singurindi that the training of the skills of race car drivers should be preceded by the psychological preparation of future athletes and the analysis of their individual characteristics and reactions.

In the process of collecting empirical information, the following psychodiagnostic tests and methods were used:

- Expert evaluation questionnaire "Athlete through the eyes of a coach" to determine performance, emotional stability and motivation;
- Determining the type of character according to K.G. Jung;
- The Bass-Darkey aggressiveness level questionnaire (only the integrated indicator "Aggressiveness" was used (Aggressiveness = Physical aggression + Irritation + Verbal aggression). When deriving estimates, we were guided by the approach of Rogov E.I., according to whose studies, the norm of aggressiveness is the value of its index, equal to 21 ± 4 , and hostility - $6.5-7 \pm 3$).

The study involved 30 athletes.

Results of the study and their discussion. Based on the results of testing athletes and questioning coaches, a data table was compiled (Table 1).

Table 1. Indicators of testing and questioning

Nº	Efficiency	Emotional stability	Motivation	Aggressiveness index	Vertization
1	9	9	9	12	45
2	9	7	8	21	55
3	8	9	9	18	50
4	8	8	7	20	55
5	8	6	7	19	79
6	7	7	6	22	85
7	7	7	8	11	70
8	7	6	7	25	75
9	6	5	6	24	29
10	5	6	8	32	75
11	4	5	4	31	70

Table 2. Matrix of intercorrelations

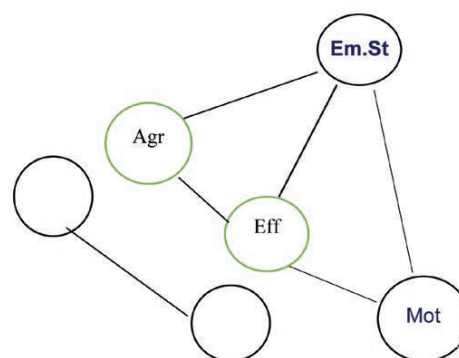
Correlation	Efficiency	Emotional stability	Motivation	Aggressiveness	Vertization
Efficiency	1				
Emotional stability	0,758	1			
Motivation	0,610	0,726	1		
Aggressiveness	-0,696	-0,721	-0,577	1	
Vertization	-0,292	-0,279	-0,337	0,302	1

Note. The table highlights the coefficients that reach the level of statistical significance.

Table 3. Differences between highly successful and less successful athletes

Correlation	Mann-Whitney U Test (group comparison) Highlighted values with significance level $p < ,05000$			
	Rank sum in the 1st group	Rank sum in the 2nd group	U-criterion	p-level
Emotional stability	41,00000	25,00000	4,000000	0,049235
Motivation	39,00000	27,00000	6,000000	0,120692
Aggressiveness	20,00000	46,00000	5,000000	0,082838
Vertization	24,00000	42,00000	9,000000	0,315303

Further, a correlation analysis was carried out of the qualities and performance indicators of athletes indicated in the table at competitions (Table 2, Figure 1). As can be seen from the table and figure, performance positively correlates with indicators of emotional stability. This seems quite logical, since emotional instability produces the likelihood of erroneous actions. Athlete performance is also positively correlated with motivation for success. All these three indicators create a stable structure, where each of the indicators of personal quality depends on the previous ones. Aggression is negatively correlated with performance, as well as with emotional stability. We propose to comment on these regularities as follows. Apparently, in this kind of sport - road racing - aggressiveness (for example, in contrast to boxing or freestyle wrestling) interferes with making the right decision by narrowing the distribution of attention and worsening the ability to analyze the situation.



Correlation galaxy of test indicators.

Symbols: Eff - effectiveness; Agr - aggressiveness; Em.St. - emotional stability; Mot - motivation for success

To identify differences between the indicators of personal characteristics in athletes of different groups, all the examined athletes were divided into



two groups: highly successful (these are those whose performance indicators are 8 points or more) and less successful (whose performance indicators are below 8 points). The comparison was made using the Mann-Whitney U-test.

A comparative analysis showed that the groups of highly successful and less successful athletes differ in terms of emotional stability (Table 3). This is consistent with the indicators of correlation processing (the correlation between the indicators of emotional stability and performance was the highest) and once again confirms the thesis we have already put forward: low indicators of emotional stability prevent making the right decision under time pressure and do not contribute to performance in this sport. Differences in other indicators do not reach the level of statistical significance.

It was found that successful motorsportmen tend to be ambivert, while less successful pilots are more extroverted - their average values are 56.8 (highly successful) and 67.3 (less successful), respectively.

The variability of vertization values for highly successful individuals is lower than for less successful ones (standard deviations are 13.1 and 19.6, respectively). The analysis of linear regression, carried out in the Statistica program, showed that the effectiveness depends on the indicators of vertization and it is expressed by the following formula: $Effectiveness = 8.55 - 0.02 \cdot Vertization$.

Conclusions. The effectiveness of pilots in road races is affected not only by the training of skills, but also by a number of individual psychological qualities of pilots.

Efficiency largely depends on the motivation indicators of pilots.

The aggressiveness of pilots acts as an undesirable personality trait for pilots of road races (this statement applies only to this sport!), interfering with their performance and preventing them from making adequate decisions in the face of time pressure. There is a statistically significant difference between highly successful and less successful pilots in terms of emotional stability: highly successful athletes are more stable, which means they are less prone to panic and less likely to fall into a stupor.

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